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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,671	11/11/2003	John M. Morgenstern	SAI.P015 US	8312
32794	7590	05/24/2004	EXAMINER	
KOESTNER BERTANI LLP 18662 MACARTHUR BLVD SUITE 400 IRVINE, CA 92612			DINH, TIEN QUANG	
			ART UNIT	PAPER NUMBER
			3644	

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,671

Applicant(s)

ZOHAR ET AL.

Examiner

Tien Dinh

Art Unit

3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 27 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is not understood how the winglet rotates on about an axis in the plane of the outboard winglet and normal to the longitudinal axis of the aircraft. If the winglet is anahedral in angle, then how could this be accomplished? Further, how can the winglet rotate as it is current shown in the figures and disclosed in the specification? Please explain.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-6, 8-10, 23, 24, 26, 28, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friebel et al in view of Schwaerzler et al.

Friebel et al discloses a wing on a supersonic aircraft having an inboard section that is oriented dihedrally, central section, a nacelle, and an outboard winglet that is oriented anhedrally relative to a lateral axis to increase ground effect during takeoff and provide positive wave drag interference with the nacelle. Friebel et al is silent on the leading edge flaps formed from the leading edge segments of the inboard, central and outboard section and the control system to control the leading edge flaps including the strake. However, Schwaerzler et al teaches that a control system that control the leading edge flaps (including strakes) are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used a control system with leading edge flaps in Friebel et al's system as taught by Schwaerzler et al to increase control, maneuverability of the aircraft, reduce trim and vortex drag, and reduce sonic boom.

Re claim 6, the leading edge flaps on the winglet would provide roll control and directional control with proverse roll effects.

Re claims 9 and 10, these are steps that one skilled in the art would recognized as the result of the leading edge flaps being used.

Re claim 28, due to the dihedral angle of the inboard section and the central section of the wing in Friebel et al's system, this would allow fuel stored within the inboard section and central section to be readily pumped. Fuels being stored in wing sections are notoriously well known in this day and age.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friebe et al as modified by Schwaerzler et al as applied to claim 1 above, and further in view of McKinney et al.

Friebe et al as modified by Schwaerzler et al discloses all claimed parts except for the Kreuger flap. However, McKinney et al teaches that Kreuger flaps are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used Kreuger flaps in the wing of Friebe et al as modified by Schwaerzler et al and as taught by McKinney et al to increase control and maneuverability.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friebe et al as modified by Schwaerzler et al as applied to claim 1 above, and further in view of Gillingham et al.

Friebe et al as modified by Schwaerzler et al discloses all claimed parts except for the control of the leading edge flaps in conjunction with the trailing edge flaps to reduce drag at subsonic speed. However, Gillingham et al teaches that controlling the leading edge flaps in conjunction with the trailing edge flaps are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have controlled the leading edge flaps in conjunction with trailing edge flaps in Friebe et al's system as modified by Schwaerzler et al and as taught by Gillingham et al to increase maneuverability and reduce drag at subsonic speed.

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Claims 11-15, 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friebe et al in view of Schwaerzler et al and McKinney et al.

Friebe et al discloses a wing on a supersonic aircraft having an inboard section that is oriented dihedrally, central section, a nacelle, and an outboard winglet that is oriented anhedrally relative to a lateral axis to increase ground effect during takeoff and provide positive wave drag interference with the nacelle. Friebe et al is silent on the leading edge flaps formed from the leading edge segments of the inboard, central and outboard section, the control system to control the leading edge flaps including the strake, and the Kreuger flaps. However, Schwaerzler et al teaches that a control system that control the leading edge flaps (including strakes) are well known in the art. Also, McKinney et al teaches that Kreuger flaps are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used a control system with leading edge flaps in Friebe et al's system as taught by Schwaerzler et al to increase control, maneuverability of the aircraft, reduce trim and vortex drag, and reduce sonic boom. Furthermore, it would have been obvious to one skilled in the art at the time the invention was made to have used Kreuger flaps in the wing of Friebe et al as modified by Schwaerzler et al and as taught by McKinney et al to increase control and maneuverability.

Re claims 12, 13, 20, and 21, please note that Schwaerzler et al teaches that the strake are swept at a different angle than that of the inboard portion and the winglet.

Re claim 6, the leading edge flaps on the winglet would provide roll control and directional control with proverse roll effects.

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Re claims 18 and 22, these are steps that one skilled in the art would recognize as the result of the leading edge flaps being used.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friebe et al as modified by Schwaerzler et al and McKinney et al as applied to claim 1 above, and further in view of Gillingham et al.

Friebe et al as modified by Schwaerzler et al and McKinney et al discloses all claimed parts except for controlling the leading edge flaps in conjunction with the trailing edge flaps. However, Gillingham et al teaches that controlling the leading edge flaps in conjunction with the trailing edge flaps are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have controlled the leading edge flaps in conjunction with trailing edge flaps in Friebe et al's system as modified by Schwaerzler et al and McKinney et al and as taught by Gillingham et al to increase maneuverability and reduce drag at subsonic speed.

Claims 27 and 30, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Friebe et al as modified by Schwaerzler et al as applied to claim 23 above, and further in view of Klug.

Friebe et al as modified by Schwaerzler et al discloses all claimed parts except for actuator to rotate the winglets with respect to an axis. However, Klug teaches that controlling the winglets with actuators with respect to an axis is well known in the art.

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It would have been obvious to one skilled in the art at the time the invention was made to have used an actuator to rotate the winglets in Friebe et al's system as modified by Schwaerzler et al and as taught by Klug to increase maneuverability and to control the air around the wing.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friebe et al as modified by Schwaerzler et al as applied to claim 23 above, and further in view of Rutan or Welles.

Friebe et al as modified by Schwaerzler et al discloses all claimed parts except for the sweep angle of the outboard winglet is less than the sweep angle of the central section of the wing. However, Rutan or Welles teaches that Kreuger the sweep angle of the outboard winglet is less than the sweep angle of the central section of the wing is well known in the art. See figures 1 and 8 of Welles. The Examiner interprets the part where the number 22 is pointed in figure 1 of Rutan is the winglet while the central section is where number 14 is pointed to in figure 1 of Rutan.

It would have been obvious to one skilled in the art at the time the invention was made to have made the sweep angle of the outboard winglet less than the sweep angle of the central section of the wing in Friebe et al's system as modified by Schwaerzler et al and as taught by Rutan or Welles to increase maneuverability and improve the aerodynamics of the aircraft.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Bacchi et al, Burhans et al, Yifrach, Wenk, Wainfan et al 5366180, Freibel 4828204, Wainfan 5961068, and O'Neill et al disclose aircraft means.

Mederer and Frei disclose aircraft control means.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is 703-308-2798. The examiner can normally be reached on 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on 703-306-4159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Tien Dinh